

1. Work requester fills out this section.

☐ Standing Work Permit

Requester: Don Lynch	Date: 2/8/2007	Ext.: 2253	Dept/Div/Group: PO/PHENIX
Other Contact person (if different from requester): Sal Marino			Ext.: 3704
Work Control Coordinator: Don Lynch		Start Date: 1/9/2007	Est. End Date: 3/1/2007
Brief Description of Work: Mechanical and Electrical detector work in the PHENIX IR during the 2007 Cosmic Ray Run & During Commissioning leading up to RHIC Run 7			
Building: 1008	Room: IR	Equipment: PHENIX Experiment	Service Provider: PHENIX

WCC, Requester/Designee, Service Provider, and ES&H (as necessary) fill out this section or attach analysis

ES&H ANALYSIS				
Radiation Concerns	<input checked="" type="checkbox"/> None	<input type="checkbox"/> Activation	<input type="checkbox"/> Airborne	<input type="checkbox"/> Contamination
	<input type="checkbox"/> Radiation			
Radiation Generating Devices:	<input type="checkbox"/> Radiography	<input type="checkbox"/> Moisture Density Gauges	<input type="checkbox"/> Soil Density Gauges	<input type="checkbox"/> X-ray Equipment
<input type="checkbox"/> Special nuclear materials involved, notify Isotope Special Materials Group			<input type="checkbox"/> Fissionable materials involved, notify Laboratory Criticality Officer	
Safety Concerns	<input checked="" type="checkbox"/> None	<input type="checkbox"/> Ergonomics	<input type="checkbox"/> Transport of Haz/Rad Material	
<input type="checkbox"/> Adding/Removing Walls or Roofs	<input type="checkbox"/> Confined Space*	<input type="checkbox"/> Explosives	<input type="checkbox"/> Lead*	<input type="checkbox"/> Penetrating Fire Walls
	<input type="checkbox"/> Corrosive	<input checked="" type="checkbox"/> Flammable	<input type="checkbox"/> Magnetic Field*	<input type="checkbox"/> Pressurized Systems
<input type="checkbox"/> Asbestos*	<input type="checkbox"/> Cryogenic	<input type="checkbox"/> Fumes/Mist/Dust*	<input type="checkbox"/> Material Handling	<input type="checkbox"/> Rigging/Critical Lift
<input type="checkbox"/> Beryllium*	<input checked="" type="checkbox"/> Electrical	<input type="checkbox"/> Heat/Cold Stress	<input type="checkbox"/> Noise*	<input type="checkbox"/> Toxic Materials*
<input type="checkbox"/> Biohazard*	<input checked="" type="checkbox"/> Elevated Work*	<input type="checkbox"/> Hydraulic	<input type="checkbox"/> Non-ionizing Radiation*	<input type="checkbox"/> Vacuum
<input type="checkbox"/> Chemicals*	<input type="checkbox"/> Excavation	<input type="checkbox"/> Lasers*	<input type="checkbox"/> Oxygen Deficiency*	<input checked="" type="checkbox"/> Other Flammable Gas Flow Off
* Does this work require medical clearance or surveillance from the Occupational Medicine Clinic? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No				
Environmental Concerns	<input checked="" type="checkbox"/> None	<input type="checkbox"/> Work impacts Environmental Permit No.		
<input type="checkbox"/> Atmospheric Discharges (rad/non-rad)	<input type="checkbox"/> Land Use	<input type="checkbox"/> Soil Activation/contamination	<input type="checkbox"/> Waste-Mixed	
<input type="checkbox"/> Chemical or Rad Material Storage or Use	<input type="checkbox"/> Liquid Discharges	<input type="checkbox"/> Waste-Clean	<input type="checkbox"/> Waste-Radioactive	
<input type="checkbox"/> Cesspools (UIC)	<input type="checkbox"/> Oil/PCB Management	<input type="checkbox"/> Waste-Hazardous	<input type="checkbox"/> Waste-Regulated Medical	
<input type="checkbox"/> High water/power consumption	<input type="checkbox"/> Spill potential	<input type="checkbox"/> Waste-Industrial	<input type="checkbox"/> Underground Duct/Piping	
Waste disposition by: <input type="checkbox"/> Other				
Pollution Prevention (P2)/Waste Minimization Opportunity:	<input checked="" type="checkbox"/> None	<input type="checkbox"/> Yes		
FACILITY CONCERNS	<input checked="" type="checkbox"/> None			
<input type="checkbox"/> Access/Egress Limitations	<input type="checkbox"/> Electrical Noise	<input type="checkbox"/> Potential to Cause a False Alarm	<input type="checkbox"/> Vibrations	
	<input type="checkbox"/> Impacts Facility Use Agreement	<input type="checkbox"/> Temperature Change	<input checked="" type="checkbox"/> Other 12 Ton Crane Locked off	
<input type="checkbox"/> Configuration Control	<input type="checkbox"/> Maintenance Work on Ventilation Systems	<input type="checkbox"/> Utility Interruptions		
WORK CONTROLS				
Work Practices				
<input checked="" type="checkbox"/> None	<input type="checkbox"/> Exhaust Ventilation	<input checked="" type="checkbox"/> Lockout/Tagout	<input type="checkbox"/> Spill Containment	<input type="checkbox"/> Security (see Instruction Sheet)
<input checked="" type="checkbox"/> Back-up Person/Watch	<input type="checkbox"/> HP Coverage	<input type="checkbox"/> Posting/Warning Signs	<input type="checkbox"/> Time Limitation	<input type="checkbox"/> Other
<input type="checkbox"/> Barricades	<input type="checkbox"/> IH Survey	<input type="checkbox"/> Scaffolding-requires inspection	<input type="checkbox"/> Warning Alarm (i.e. "high level")	
Protective Equipment				
<input type="checkbox"/> None	<input type="checkbox"/> Ear Plugs	<input type="checkbox"/> Gloves	<input type="checkbox"/> Lab Coat	<input checked="" type="checkbox"/> Safety Glasses
<input type="checkbox"/> Coveralls	<input type="checkbox"/> Ear Muffs	<input type="checkbox"/> Goggles	<input type="checkbox"/> Respirator	<input type="checkbox"/> Safety Harness
<input type="checkbox"/> Disposable Clothing	<input type="checkbox"/> Face Shield	<input type="checkbox"/> Hard Hat	<input type="checkbox"/> Shoe Covers	<input checked="" type="checkbox"/> Safety Shoes <input type="checkbox"/> Other
Permits Required (Permits must be valid when job is scheduled.)				
<input checked="" type="checkbox"/> None	<input type="checkbox"/> Cutting/Welding	<input type="checkbox"/> Impair Fire Protection Systems		
<input type="checkbox"/> Concrete/Masonry Penetration	<input type="checkbox"/> Digging/Core Drilling	<input type="checkbox"/> Rad Work Permit-RWP No		
<input type="checkbox"/> Confined Space Entry	<input type="checkbox"/> Electrical Working Hot	<input type="checkbox"/> Other		
Dosimetry/Monitoring				
<input checked="" type="checkbox"/> None	<input type="checkbox"/> Heat Stress Monitor	<input type="checkbox"/> Real Time Monitor	<input type="checkbox"/> TLD	
<input type="checkbox"/> Air Effluent	<input type="checkbox"/> Noise Survey/Dosimeter	<input type="checkbox"/> Self-reading Pencil Dosimeter	<input type="checkbox"/> Waste Characterization	
<input type="checkbox"/> Ground Water	<input type="checkbox"/> O ₂ /Combustible Gas	<input type="checkbox"/> Self-reading Digital Dosimeter	<input type="checkbox"/> Other	
<input type="checkbox"/> Liquid Effluent	<input type="checkbox"/> Passive Vapor Monitor	<input type="checkbox"/> Sorbent Tube/Filter Pump		
Training Requirements (List below specific training requirements)				
PHENIX Awareness, CA access				
Based on analysis above, the Walkdown Team determines the risk, complexity, and coordination ratings below:			If using the permit when all hazard ratings are low, only the following need to sign: (Although allowed, there is no need to use back of form)	
ES&H Risk Level:	<input checked="" type="checkbox"/> Low	<input type="checkbox"/> Moderate	<input type="checkbox"/> High	WCC: _____ Date: _____
Complexity Level:	<input checked="" type="checkbox"/> Low	<input type="checkbox"/> Moderate	<input type="checkbox"/> High	Service Provider: _____ Date: _____
Work Coordination:	<input checked="" type="checkbox"/> Low	<input checked="" type="checkbox"/> Moderate	<input type="checkbox"/> High	Authorization to start _____ Date: _____
(Departmental Sup/WCC/Designee)				

3. Both work requester and service provider contribute to work plan (use attachments for detailed plans)

Work Plan (procedures, timing, equipment, and personnel availability need to be addressed): See Attached work plan				
Special Working Conditions Required: None				
Operational Limits Imposed: See Attached work plan				
Post Work Testing Required: None				
Job Safety Analysis Required: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No			Walkdown Required: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
Reviewed by: Primary Reviewer will determine the size of the review team and the other signatures required based on hazards and job complexity. Primary Reviewer signature means that the hazards and risks that could impact ES&H have been identified and will be controlled according to BNL requirements.				
Title	Name (print)	Signature	Life #	Date
Primary Reviewer				
ES&H Professional				
Other				
Other				
Work Control Coordinator	Don Lynch		20146	1/5/2007
Service Provider				
Review Done: <input type="checkbox"/> in series <input type="checkbox"/> team				

4. Job site personnel fill out this section.

Note: Signature indicates personnel performing work have read and understand the hazards and permit requirements (including any attachments).			
Job Supervisor:		Contractor Supervisor:	
Workers:	Life#:	Workers :	Life#:
Workers are encouraged to provide feedback on ES&H concerns or on ideas for improved job work flow. Use feedback form or space below.			

5. Departmental Job Supervisor, Work Control Coordinator/Designee

Conditions are appropriate to start work: (Permit has been reviewed, work controls are in place and site is ready for job.)			
Name:	Signature:	Life#:	Date:

6. Departmental Job Supervisor, Work Requester/Designee determines if Post Job Review is required. ☐ Yes ☐ No

Post Job Review (Fill in names of reviewers)			
Name:	Signature:	Life#:	Date:
Name:	Signature:	Life#:	Date:

7. Worker provides feedback.

Worker Feedback (use attached sheets as necessary) a) WCM/WCC: Is any feedback required? <input type="checkbox"/> Yes <input type="checkbox"/> No b) Workers: Are there better methods or safer ways to perform this job in the future? <input type="checkbox"/> Yes <input type="checkbox"/> No
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8. Closeout: Work Control Coordinator (authorizing dept.) checks quality of completed permit and ensures the work site is left in an acceptable condition. (WCC can delegate clean up of work area to work supervisor)

Name:	Signature:	Life#:	Date:
Comments:			

2007 PHENIX Cosmic Ray Run

INTRODUCTION

Due to a delay in funding which has caused a delay in the commencement of RHIC Run 7, PHENIX Project Management has indicated a desire to stage a short duration (3-6 weeks) test/shakedown run using Cosmic Rays with the following goals:

- (1) Exercising the whole DAQ with all detector subsystems in the big partition including the 4 new ones.
- (2) Any tests, especially of the new subsystems, that would benefit from 24/7 operations with LV, HV, flammable gas. E.g. HV and gain tests in the HBD is one area where important tests to fully understand and prepare that new detector for beam can be run.
- (3) Cosmic ray running. In particular the muon trigger upgrade group would like to run for several weeks with a north*south muon trigger with muon ID & tracker (and magnets) on. Other cosmic ray triggers such as that being prepared by the RXPN group can also be run.

WORK PLAN

The run will be coordinated and controlled in a near RHIC run configuration. This includes

1. The large main shielding wall shall be moved into run position (closed) at least one day before the start of the test run.
2. All safety checklist requirements for a run shall be completed and signed off.
3. CMO and CMI power supplies shall be lotto'd by C-A.
4. Magnetic mapping of the Central Region with the North and South Muon Magnets at full current shall be completed prior to the run. Measured magnetic levels MUST be low enough to allow access for work to be performed.
5. 24 hour a day, 7 days a week watch shifts will be manned by at least 2 persons for the duration of the run and until Flammable Gas has been purged from all detectors.
6. Flammable gas will be turned on in the mixing house shortly after the first watch shift commences. Flammable gas flow into the central magnet region and central arms of the PHENIX detectors will be administratively prevented until such time that all electrical and mechanical work in the IR is completed. No mechanical or electrical work may be done in the mixing house once flammable gas is introduced therein without additional work planning approved by C-A.

7. The plug door will remain open during this test run, but all access for work in the IR shall be thru the gate using the RHIC access card reader.
8. All personnel at 1008 including shift crew, staff, collaborators and students shall have their training current in accordance with the normal requirements during accelerator operations.

All persons on shift while this permit is in effect and all others who enter the PHENIX IR during this test run are required to first read and acknowledge this work permit/plan and sign the accompanying sheet(s).

This work permit expires automatically immediately prior to that point in time when flammable gas is introduced into the PHENIX IR. Any additional work in the IR after such time shall require a separate work permit.

4. Job site personnel fill out this section. (overflow from work permit back)

Note: Signature indicates personnel performing work have read and understand the hazards and permit requirements (including any attachments).			
Job Supervisor:		Contractor Supervisor:	
Workers:	Life#:	Workers :	Life#:
Workers are encouraged to provide feedback on ES&H concerns or on ideas for improved job work flow. Use feedback form or space below.			